

LAB # 6: Processing of Multi Beam Echo-Sounding Data

Part C: Generation and Export of Bathymetric Products

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Course Code: ESSE 4650

Introduction

This is the last part of the 3-part multi-beam lab. This part of the lab pertains to the generation and exportation of bathymetric products of a multibeam survey.

Discussion and Results

Deliverable C1

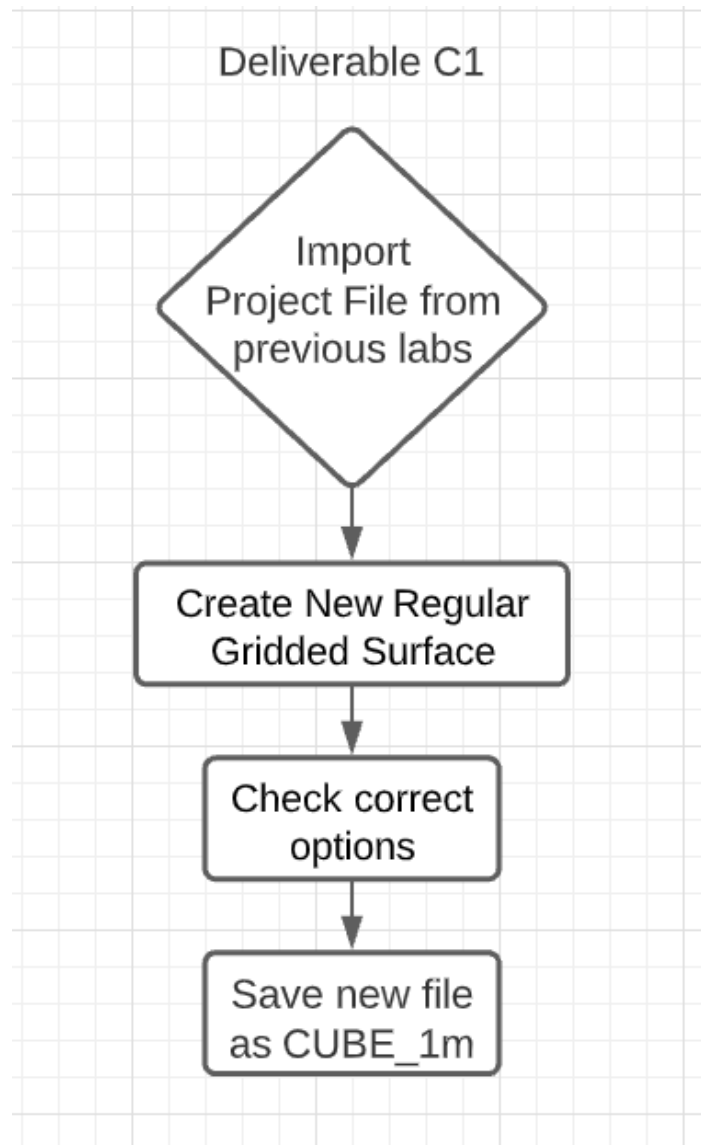


Figure 1: Deliverable C1 Workflow

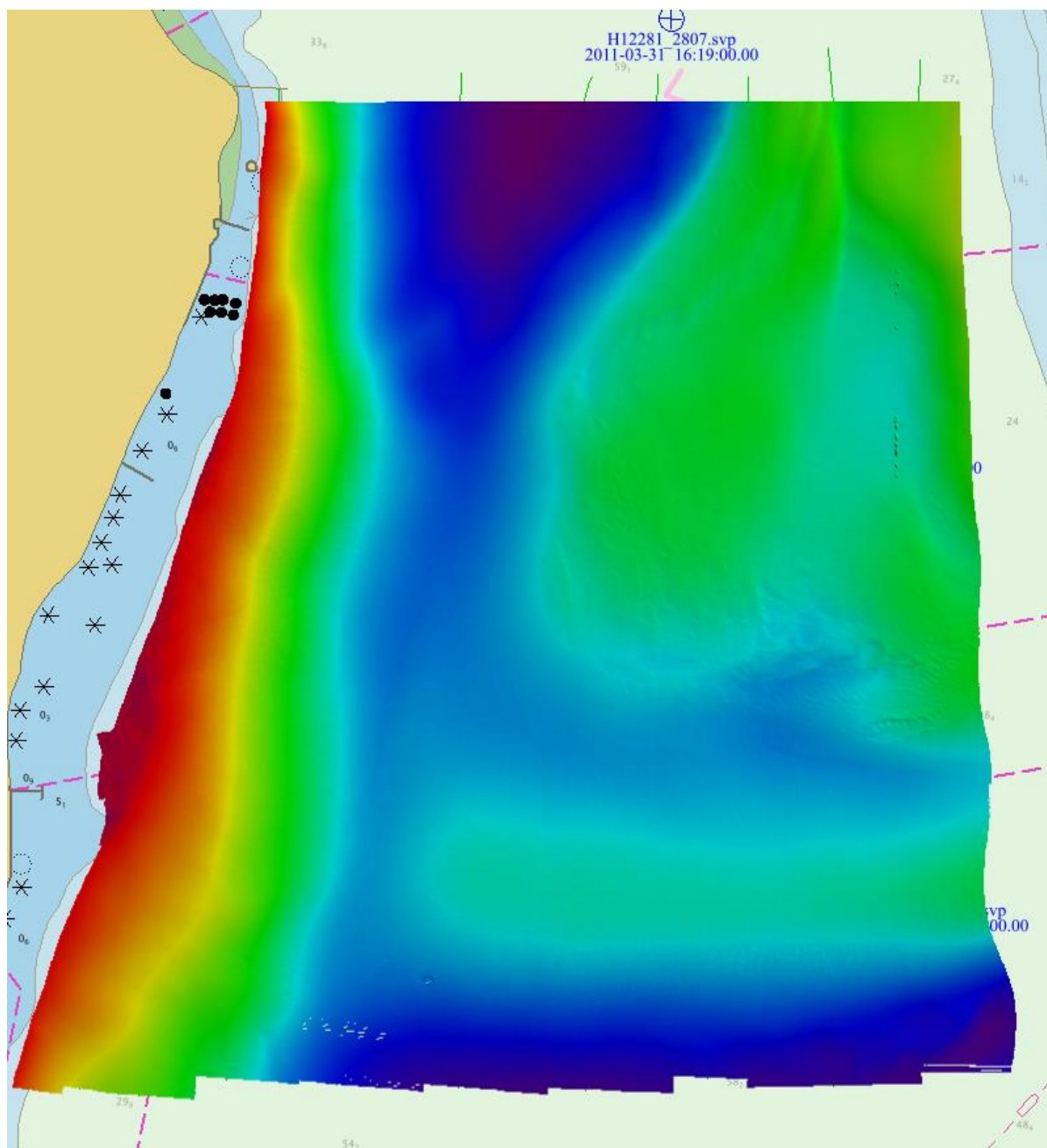


Figure 2: Generated Surface

The colours shows the range of depth of the generated surface.

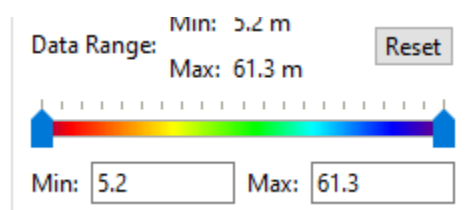


Figure 3: Colour Map of the Depth Range

Deliverable C2

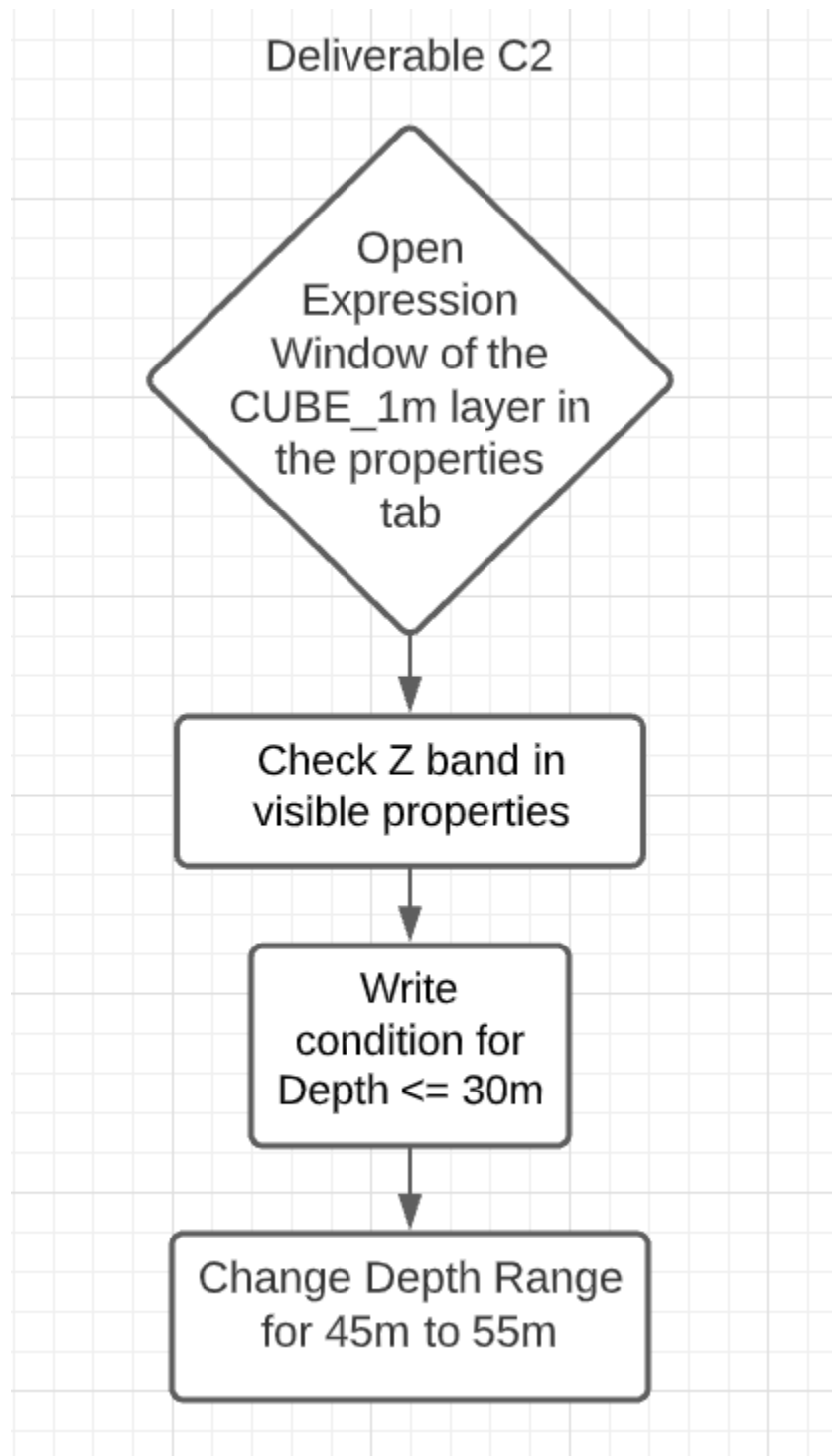


Figure 4: Deliverable C2 Workflow

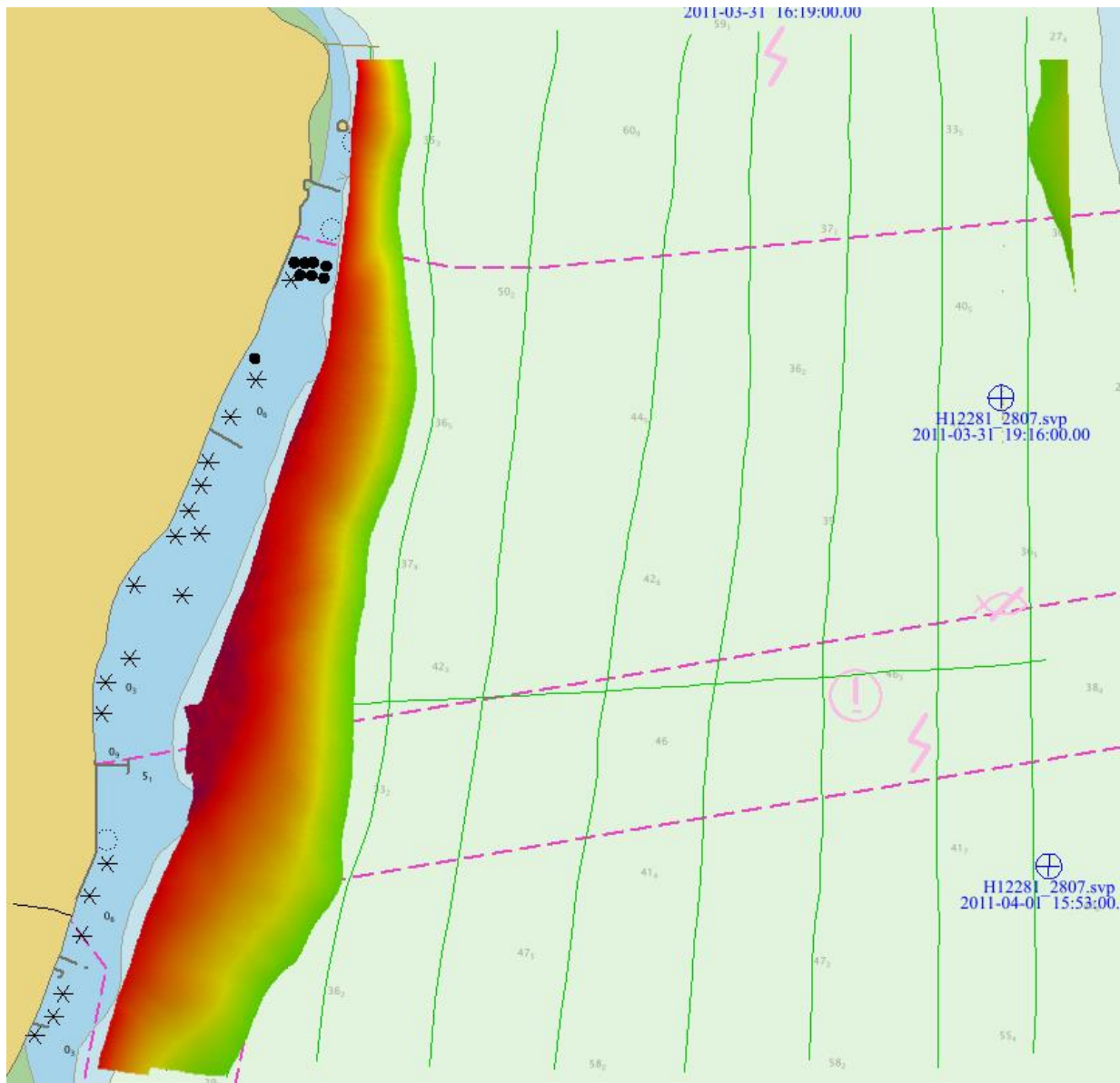


Figure 5: Depth ≤ 30 meters

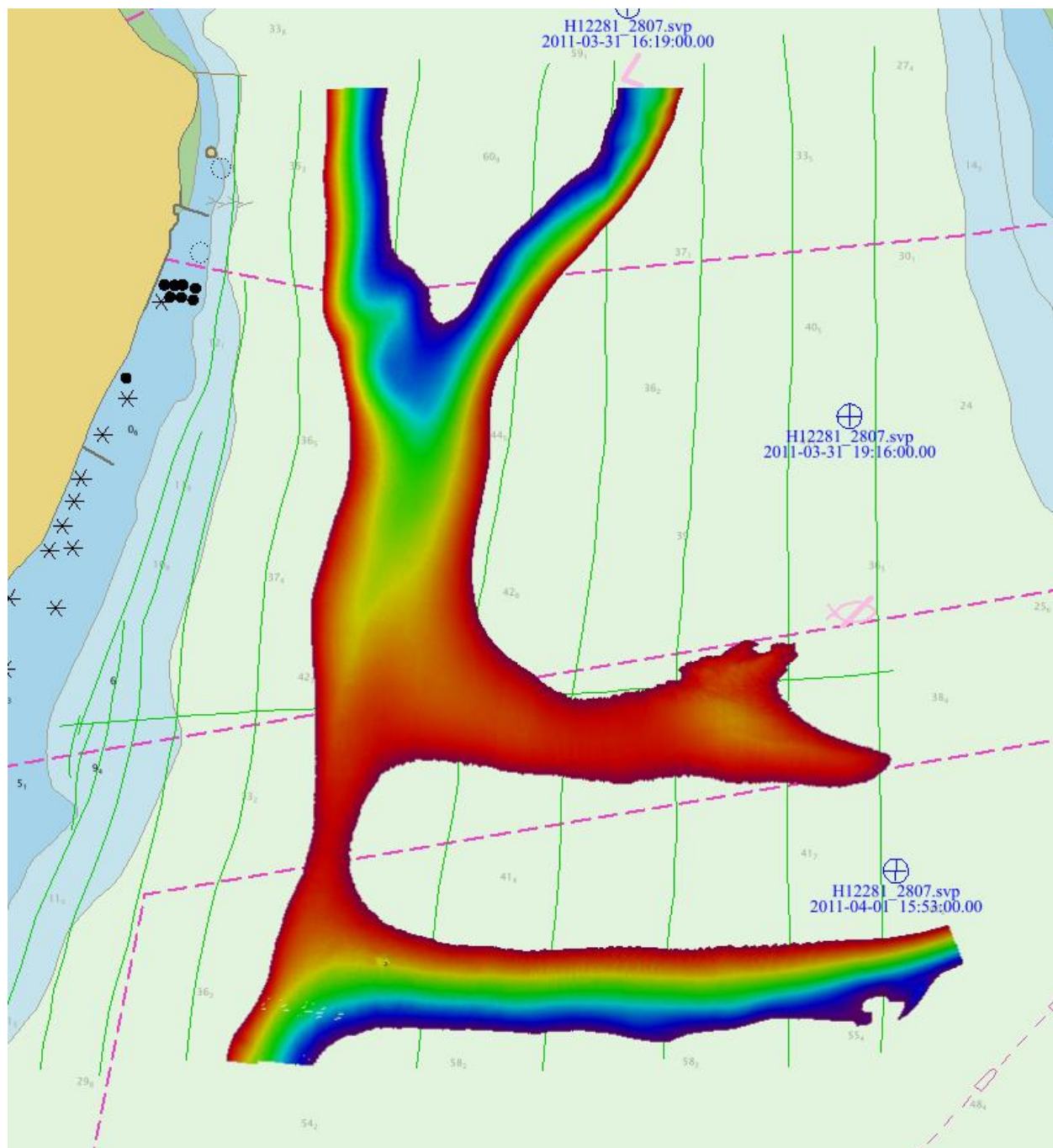


Figure 6: Depth Between 45m and 55m

Deliverable C3

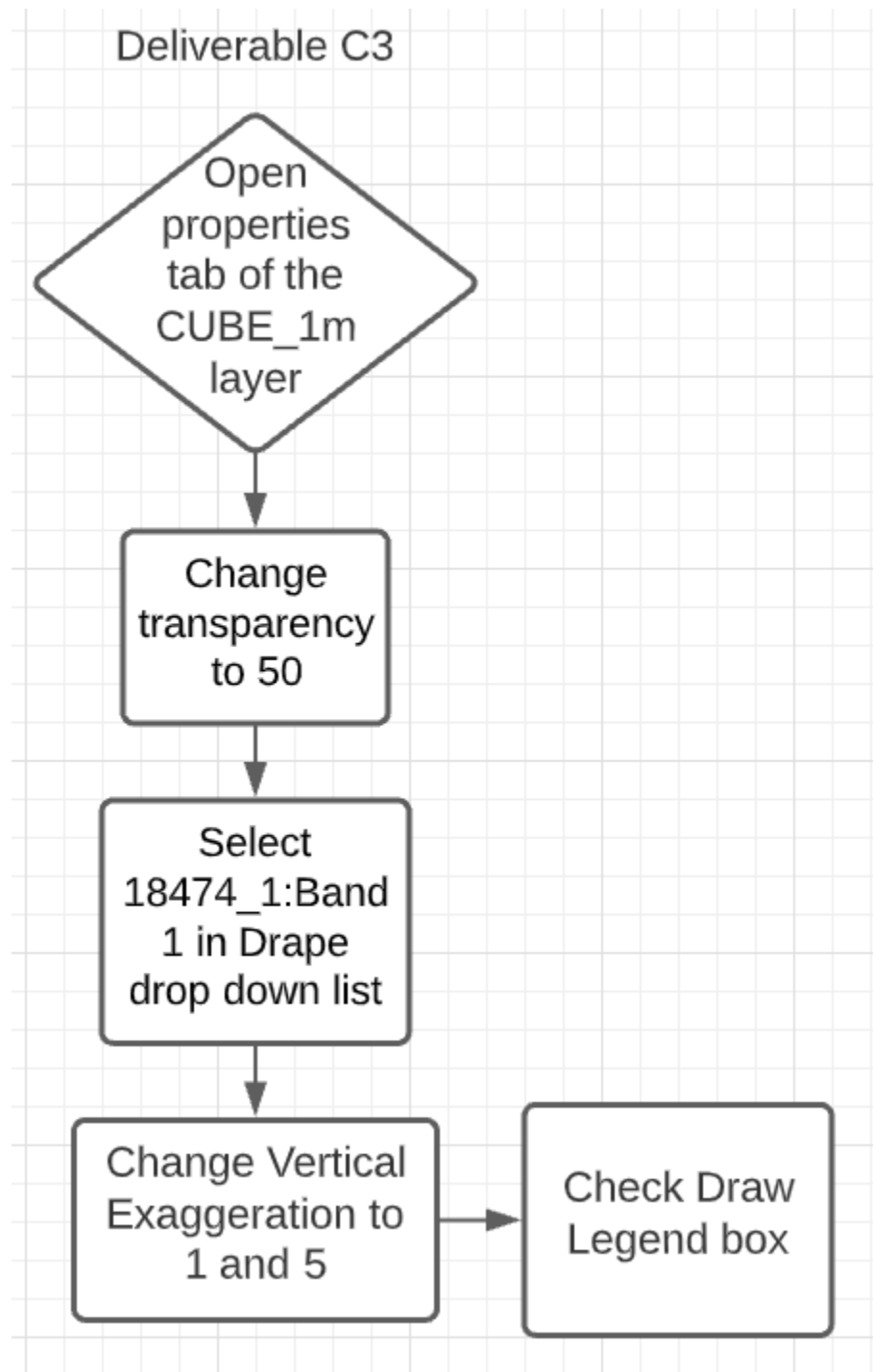


Figure 7: Deliverable C3

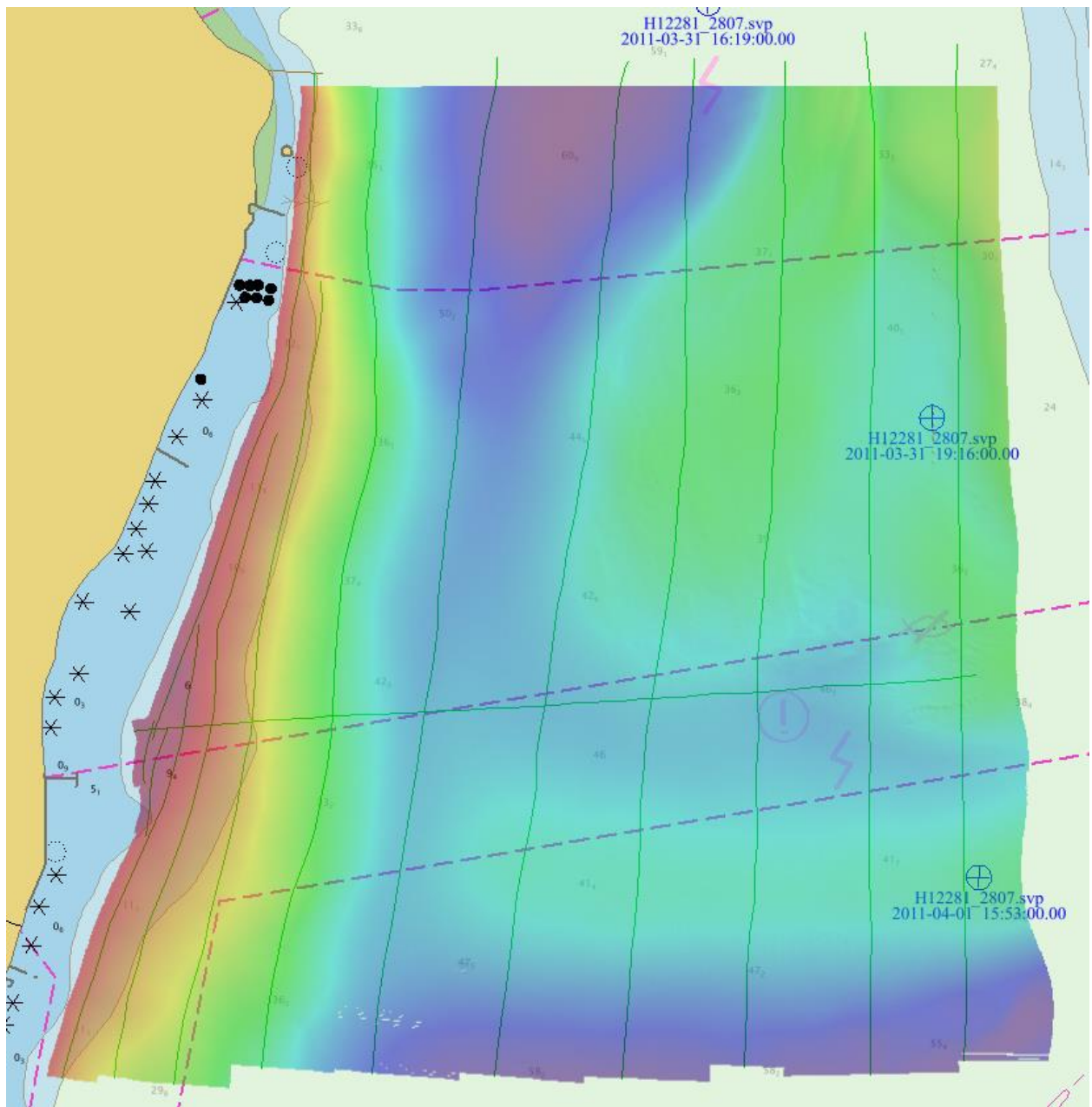


Figure 8: Surface Layer set at 50 Transparency

H12281_2807.svp
2011-03-31 16:19:00.00

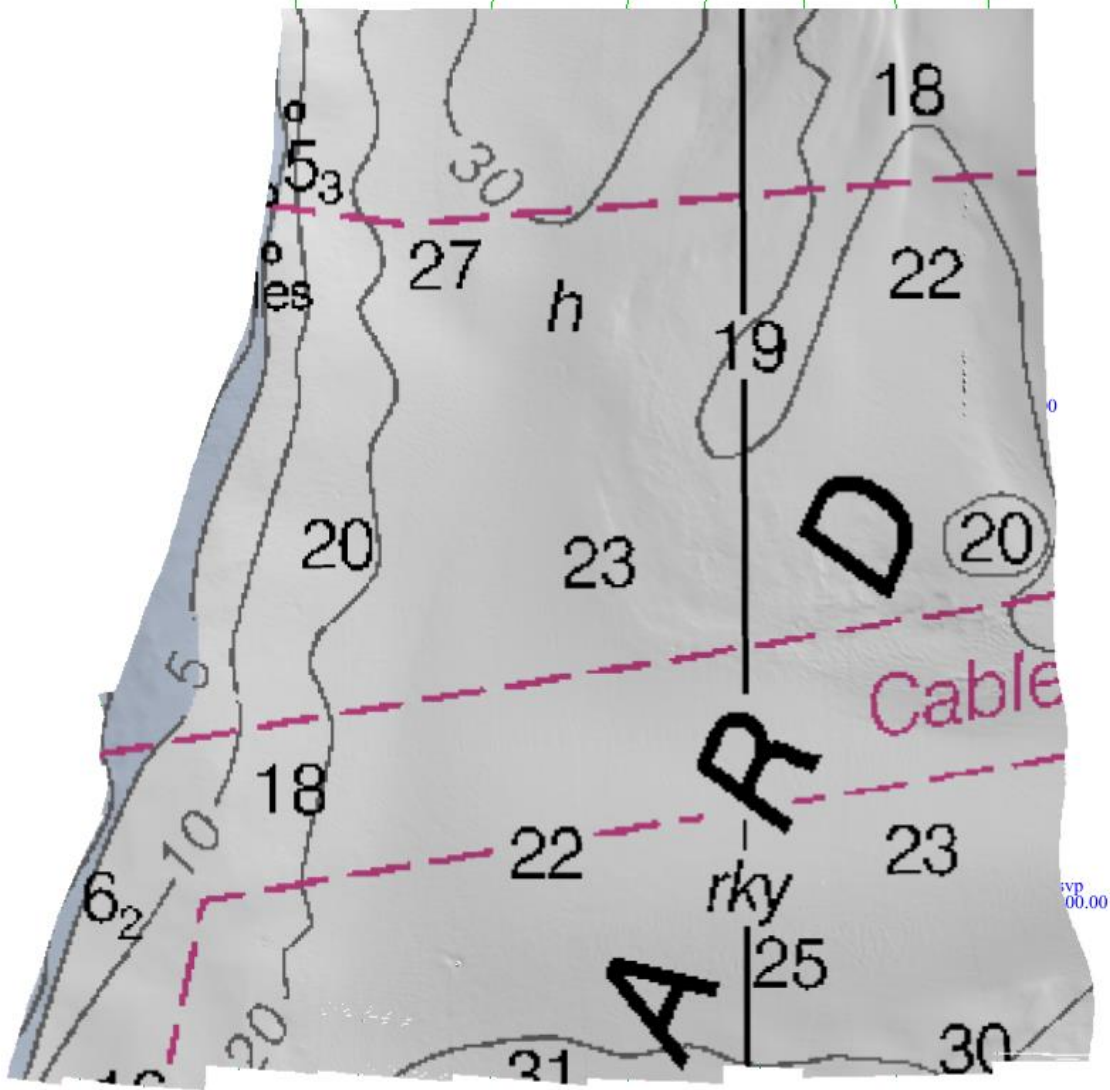


Figure 9: Surface Layer with Vertical Exaggeration of 1

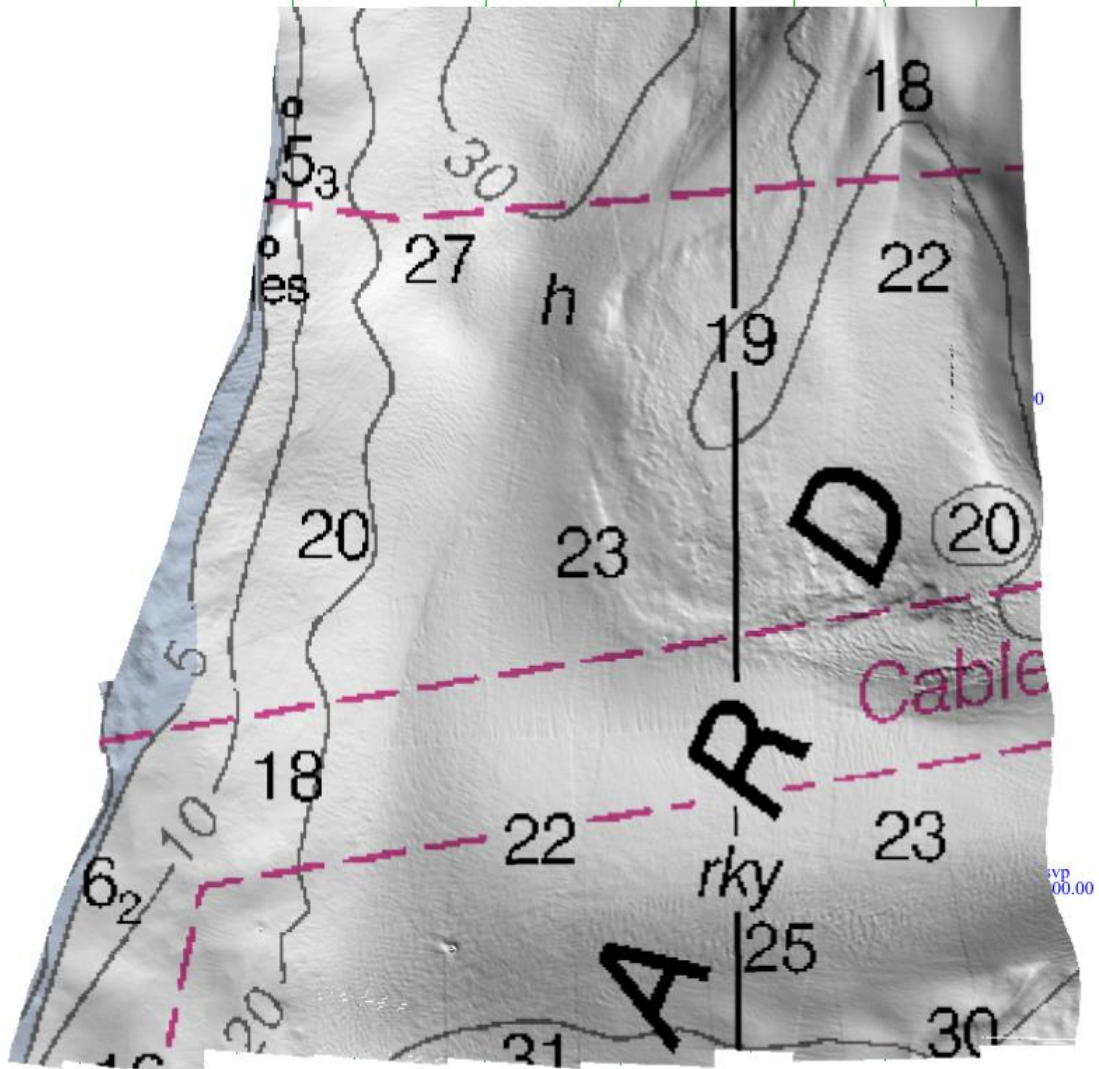


Figure 10: Surface Layer with Vertical Exaggeration of 5

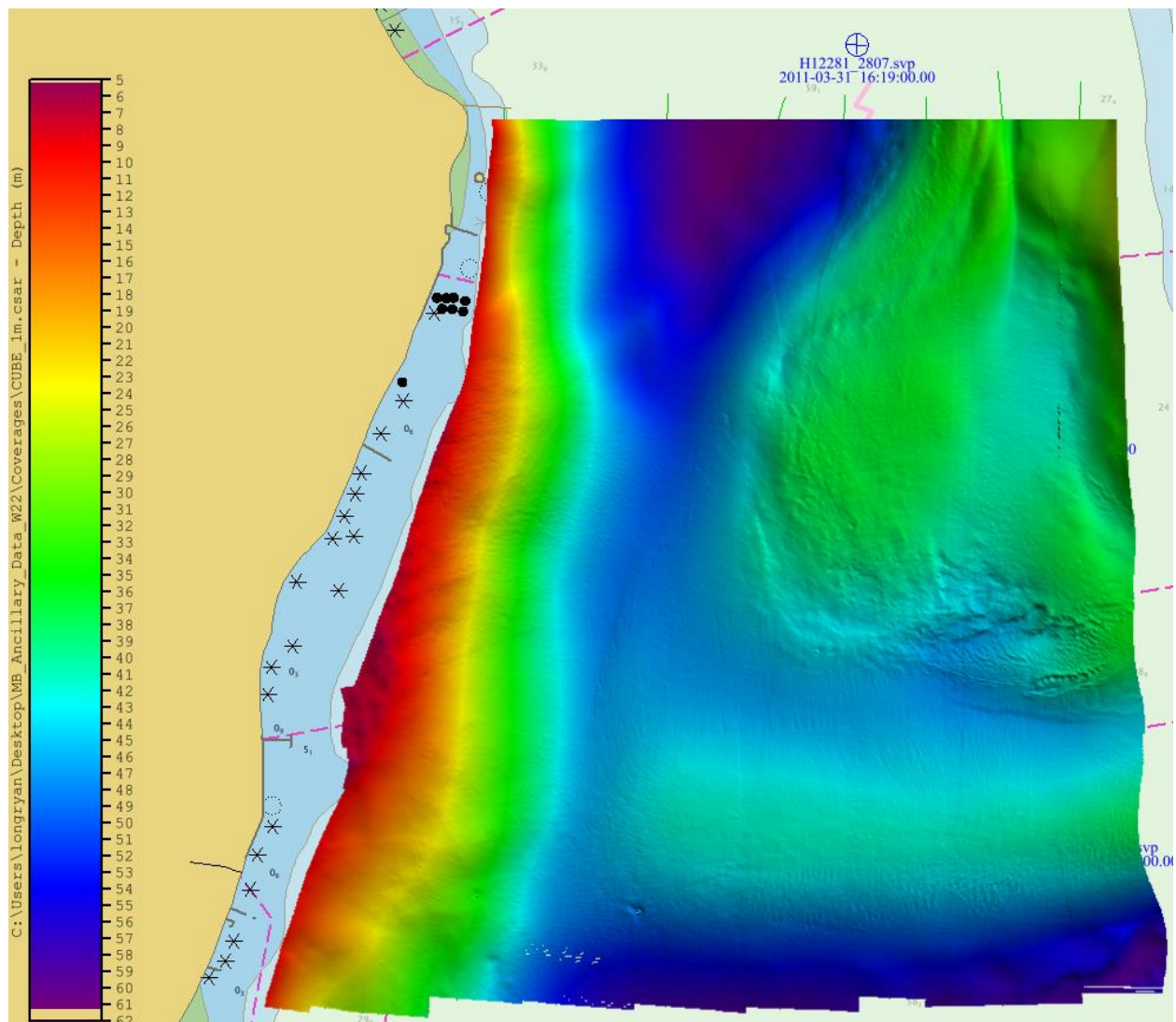


Figure 11: Surface Layer with the Colour Depth Legend

Deliverable C4

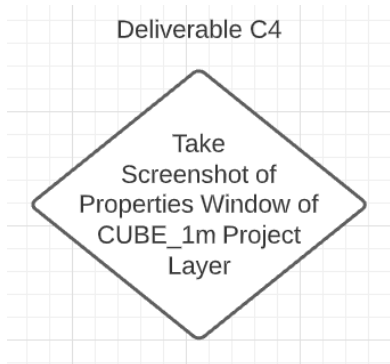


Figure 12: Deliverable C4 Workflow

Properties - Project

Find a property

General

Location: C:\Users\longryan\Desktop\MB_Ancillar...

Coordinate Reference ...: NAD83 / UTM zone 10N [NA83]
EPSG:26910

Vertical Coordinate Re...: None selected

Width: 3714.00 m

Height: 1974.00 m

Resolution: 1.00 m

Coverage Area: 1617350 m2

Platform Name: FA_2807_Reson7125

Lineage: Create HIPS Grid using CUBE

Comments: CUBE Training

Keep Up To Date: ☒

Extents

Minimum X: 529377.00 m

Minimum Y: 5269526.00 m

Maximum X: 533091.00 m

Maximum Y: 5271500.00 m

Minimum Time: 3/31/2011 3:04 PM

Maximum Time: 4/1/2011 1:30 PM

Extent Type: Fixed

Geographic Extents

Minimum Latitude: 47.578483N

Minimum Longitude: 122.609354W

Maximum Latitude: 47.596065N

Maximum Longitude: 122.559819W

Figure 13: Screen Capture of Properties Window

Deliverable C5

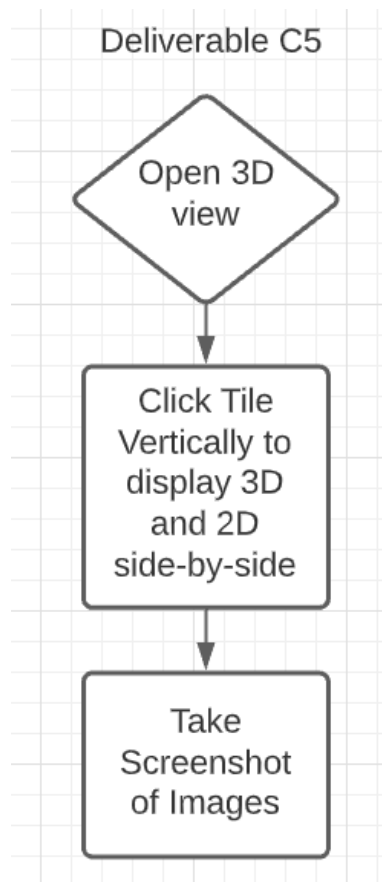


Figure 14: Deliverable C5 Workflow

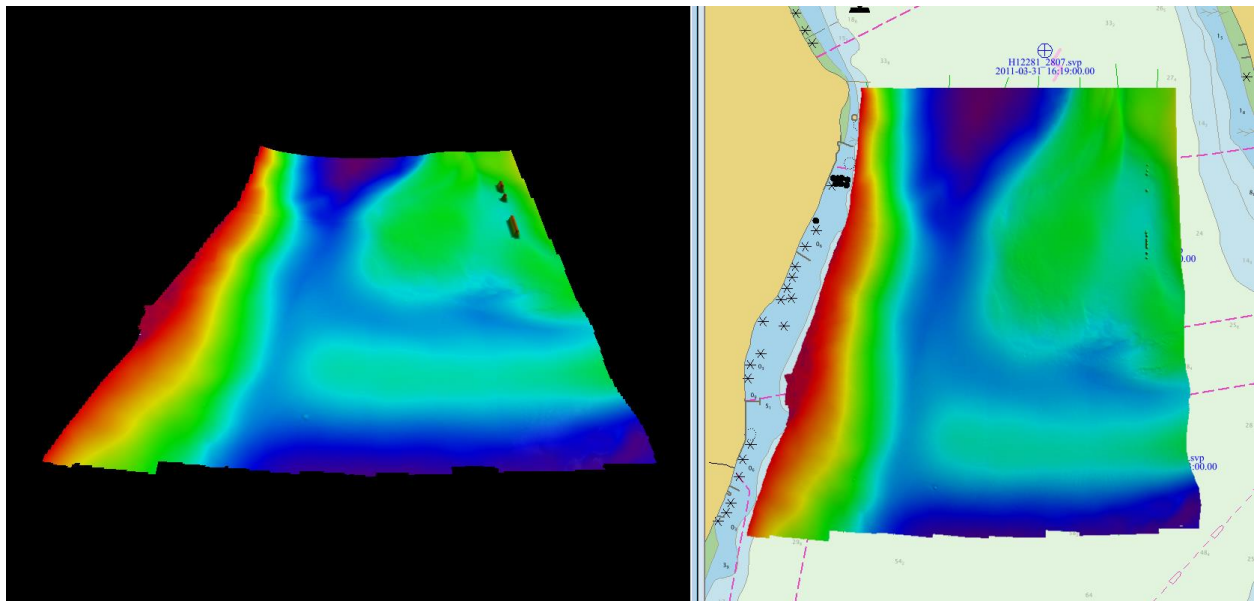


Figure 15: 3D and 2D View of CUBE_1m Layer

Deliverable C6

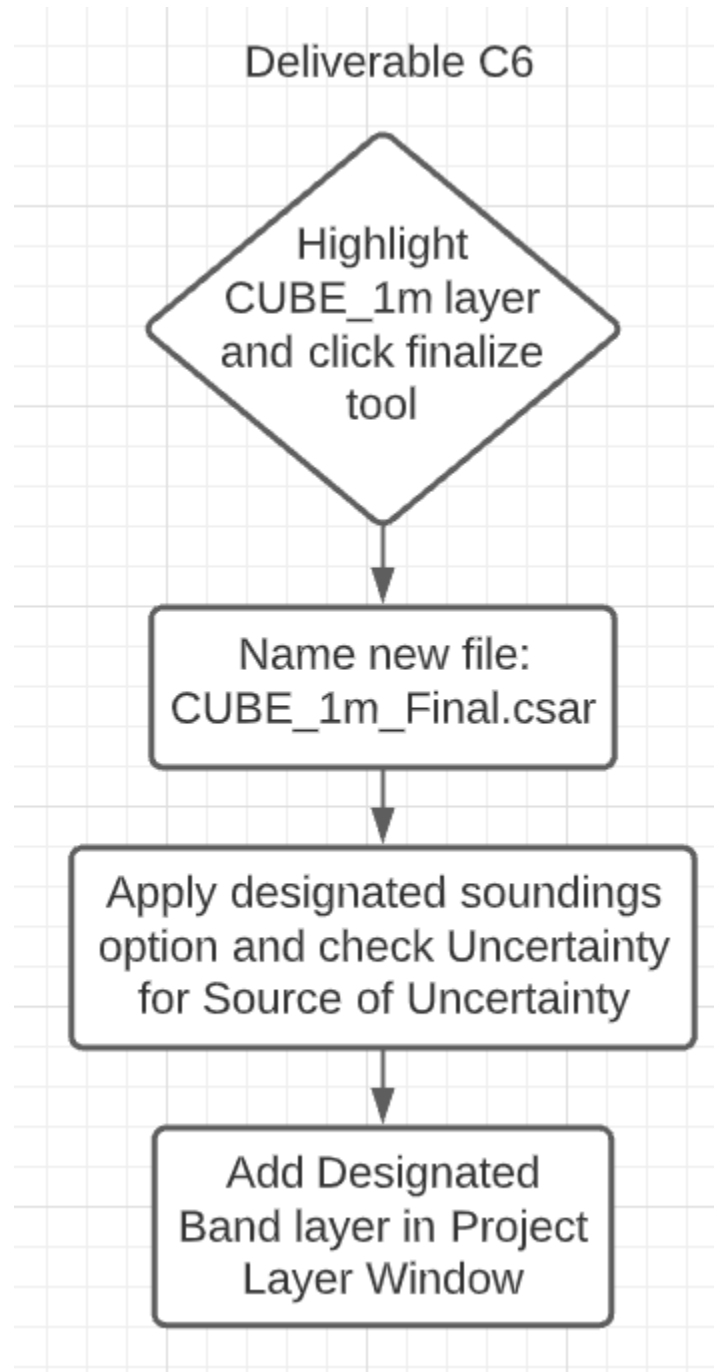


Figure 16: Deliverable C6 Workflow

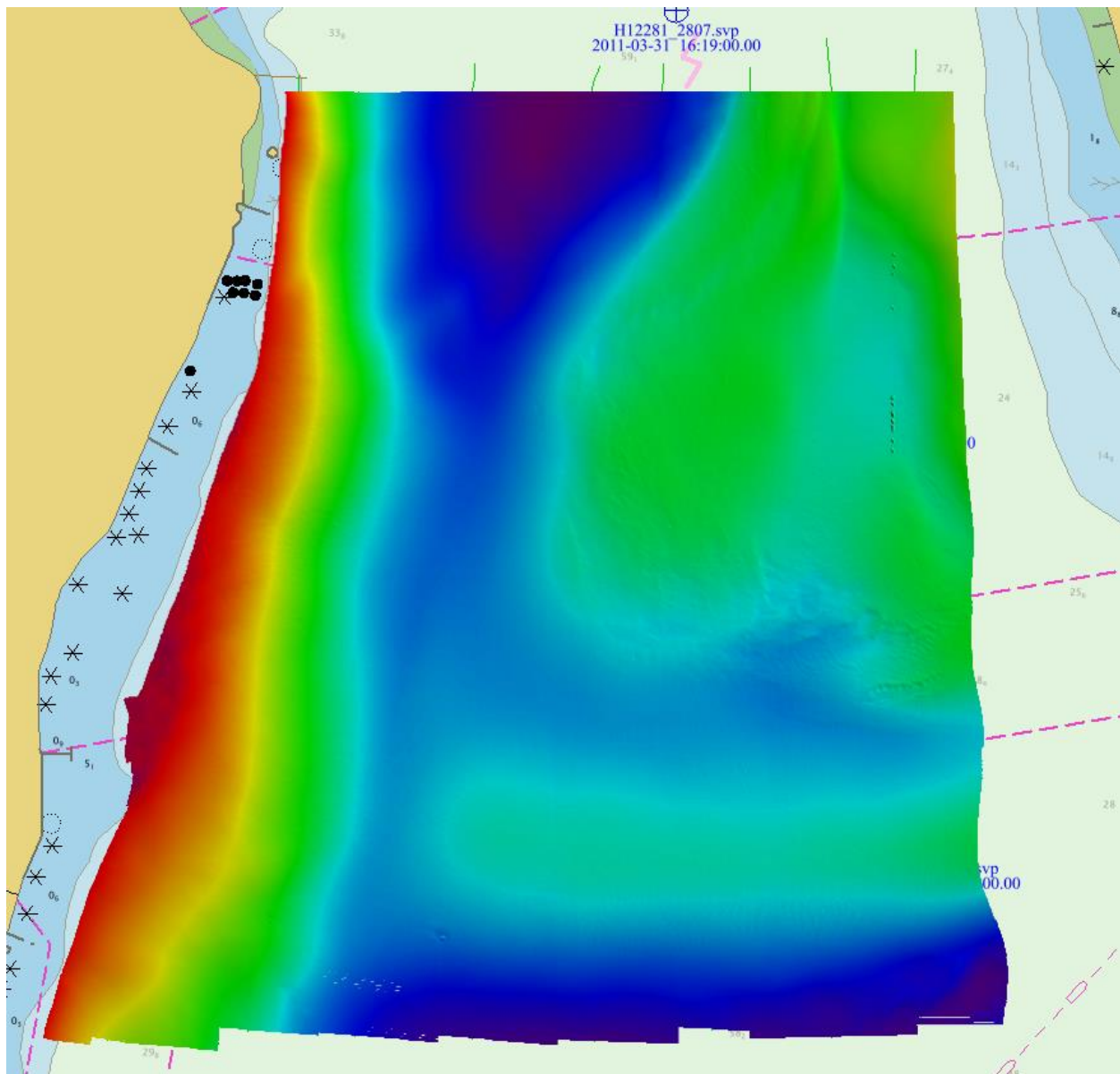


Figure 17: Surface Finalization of CUBE_1m Layer

NOTE: Designated band was not found in CUBE_1m_Final.csar

There is a slight difference between the final file and the initial file in which the small white dots found near the bottom of the layer looks more filled.

Deliverable C7

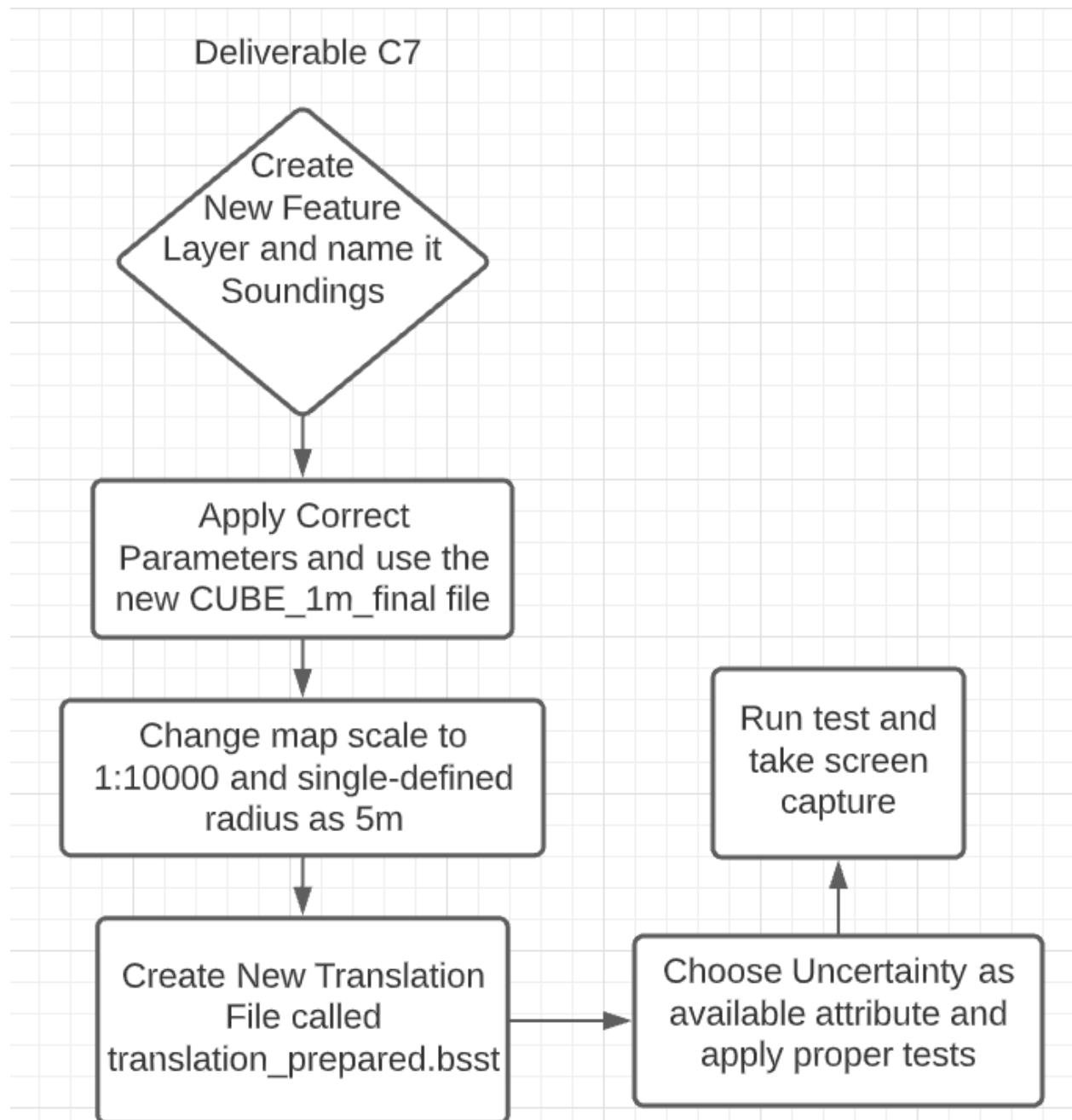


Figure 18: Deliverable C7 Workflow

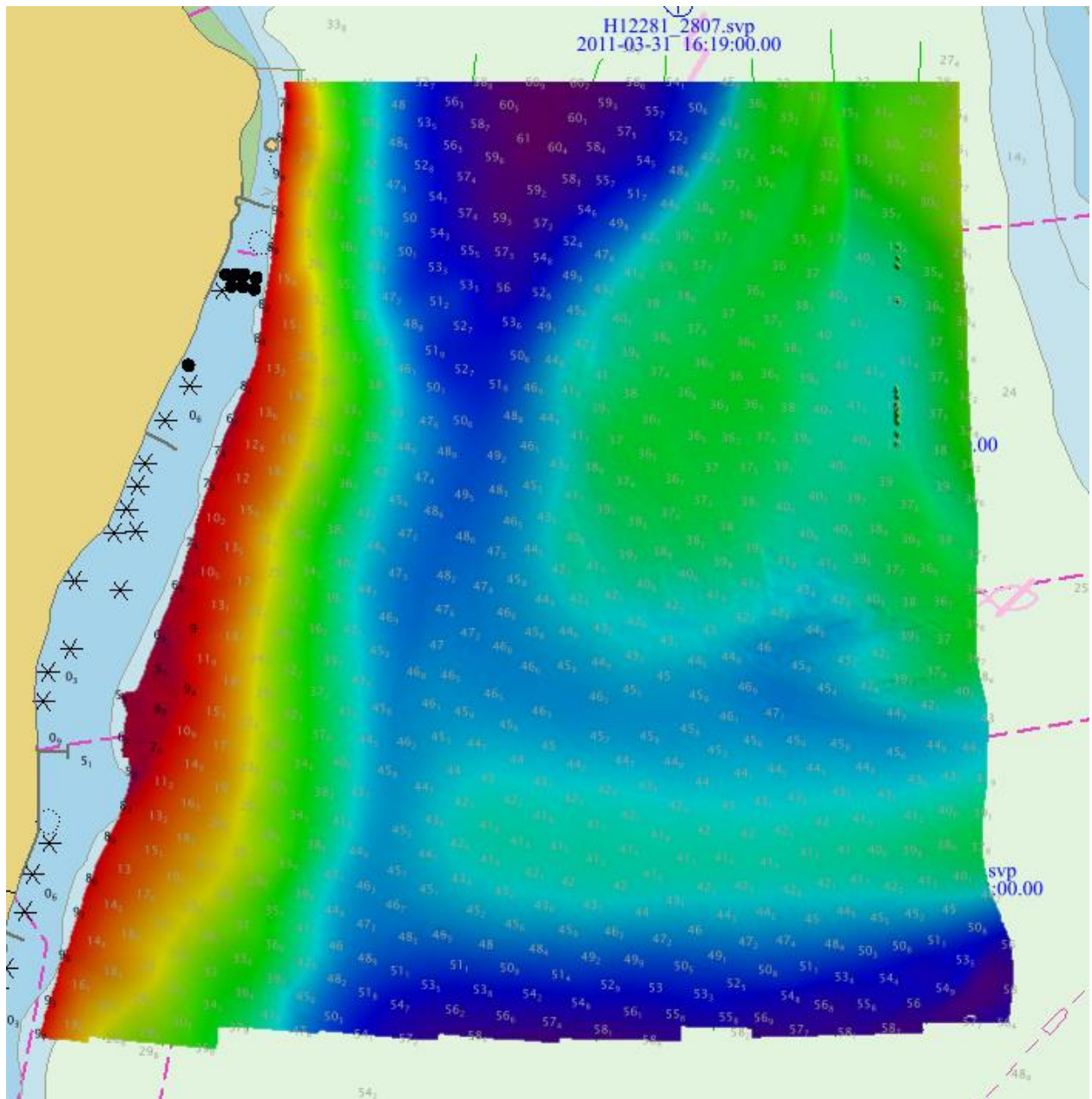


Figure 19: Sounding Selection with CUBE_1m_final Layer

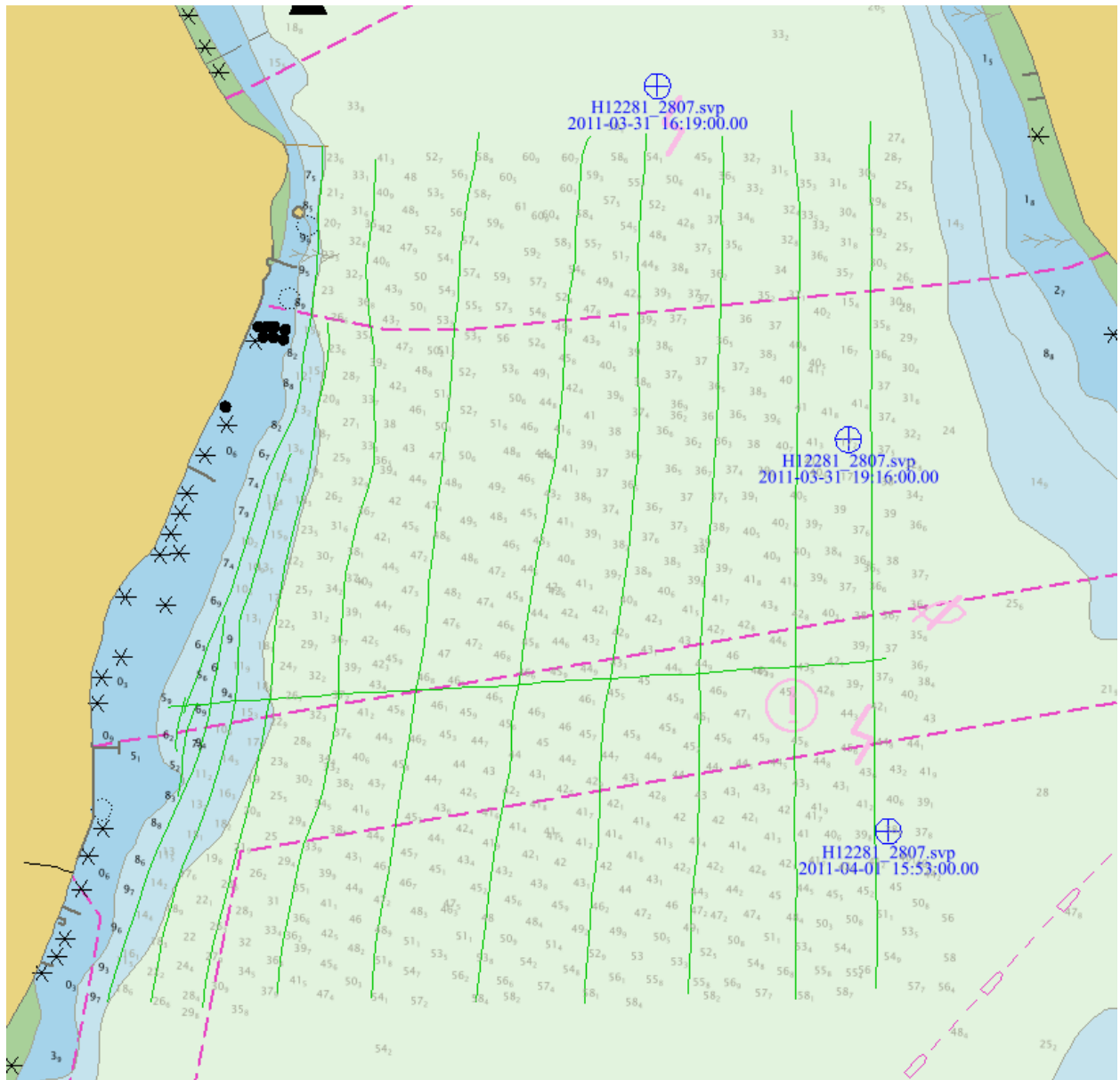


Figure 20: Sounding Selection without CUBE_1m_final Layer

Deliverable C8

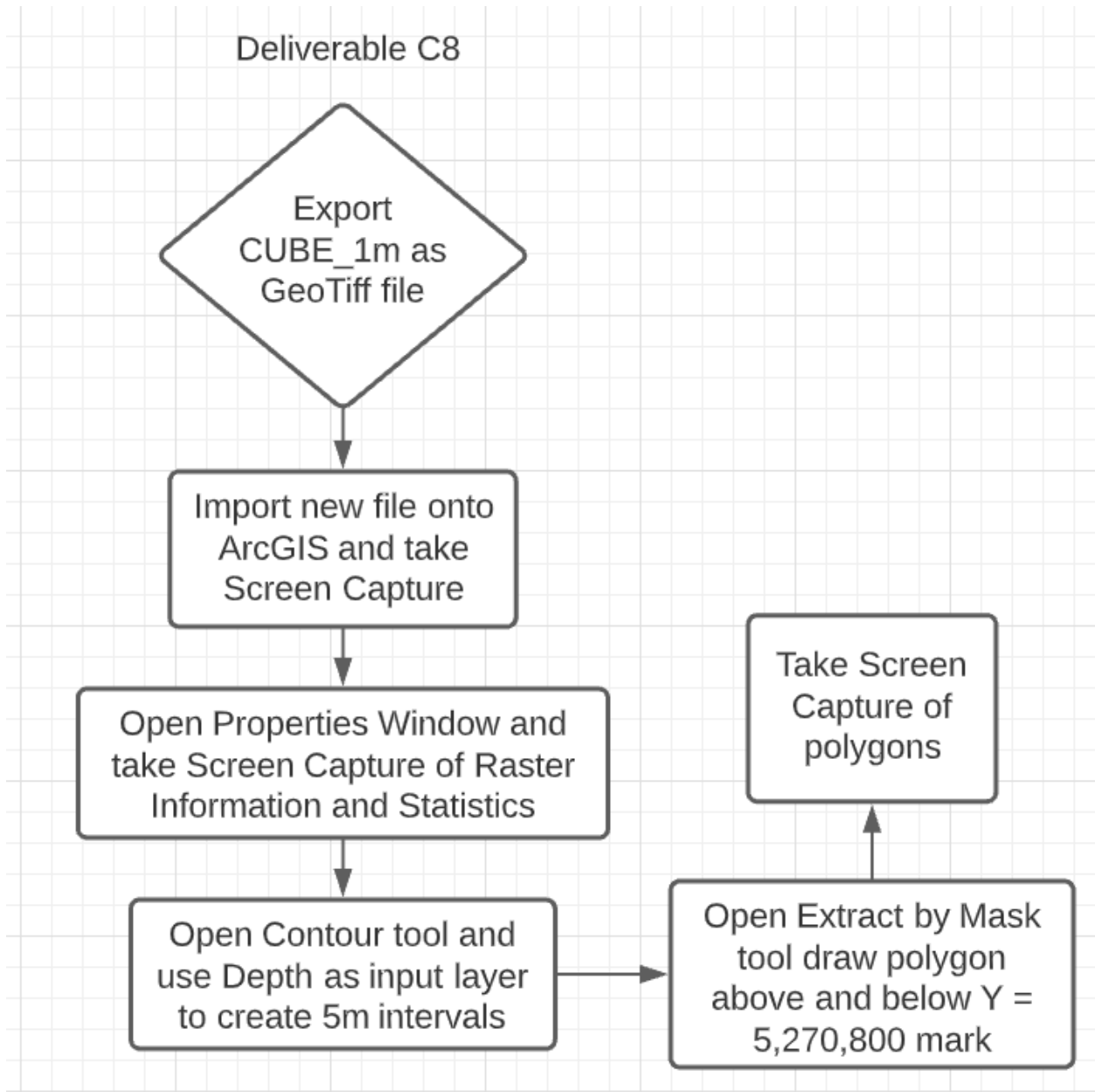


Figure 21: Deliverable C8 Workflow

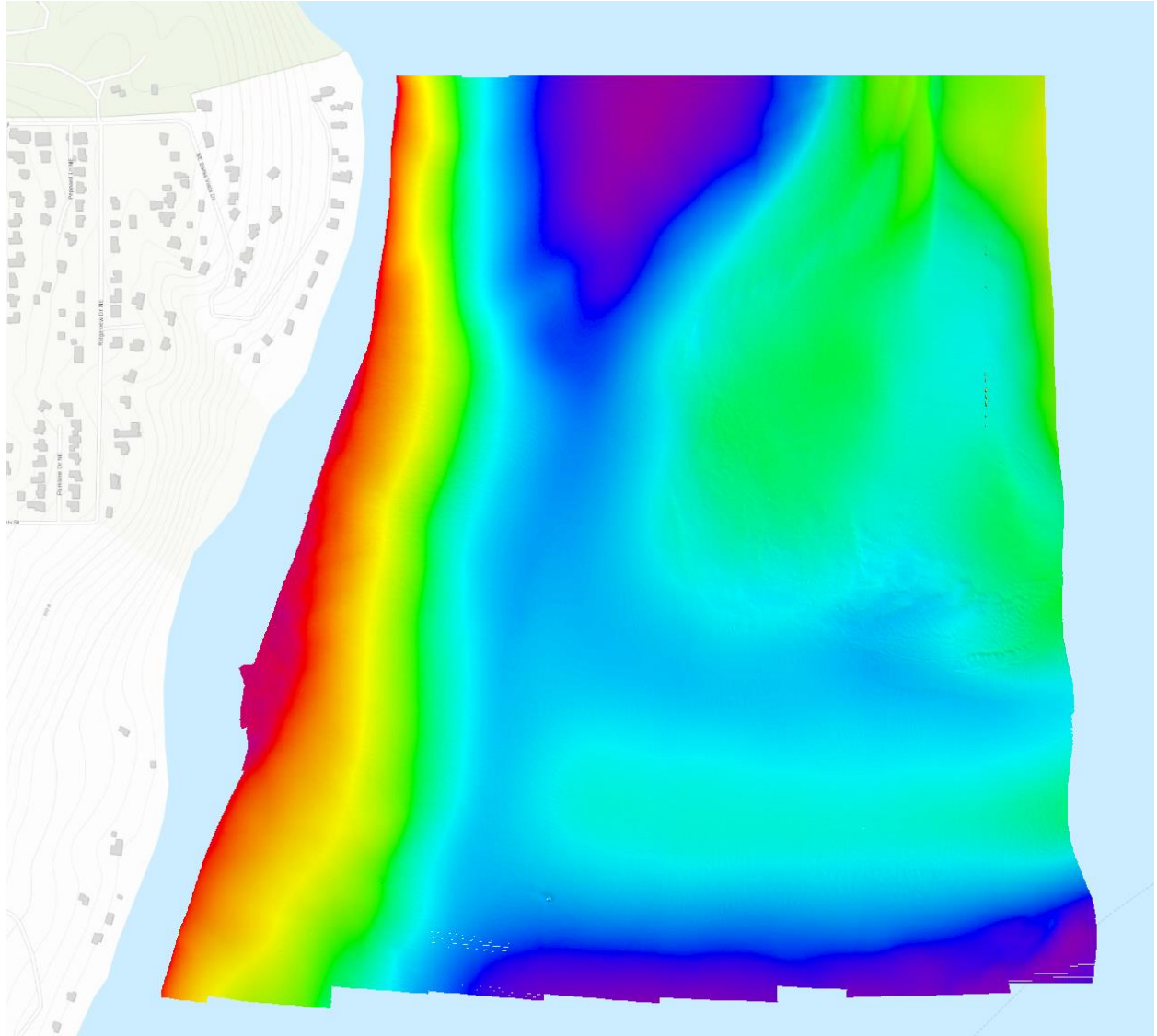


Figure 22: GeoTiff file Imported onto ArcGIS

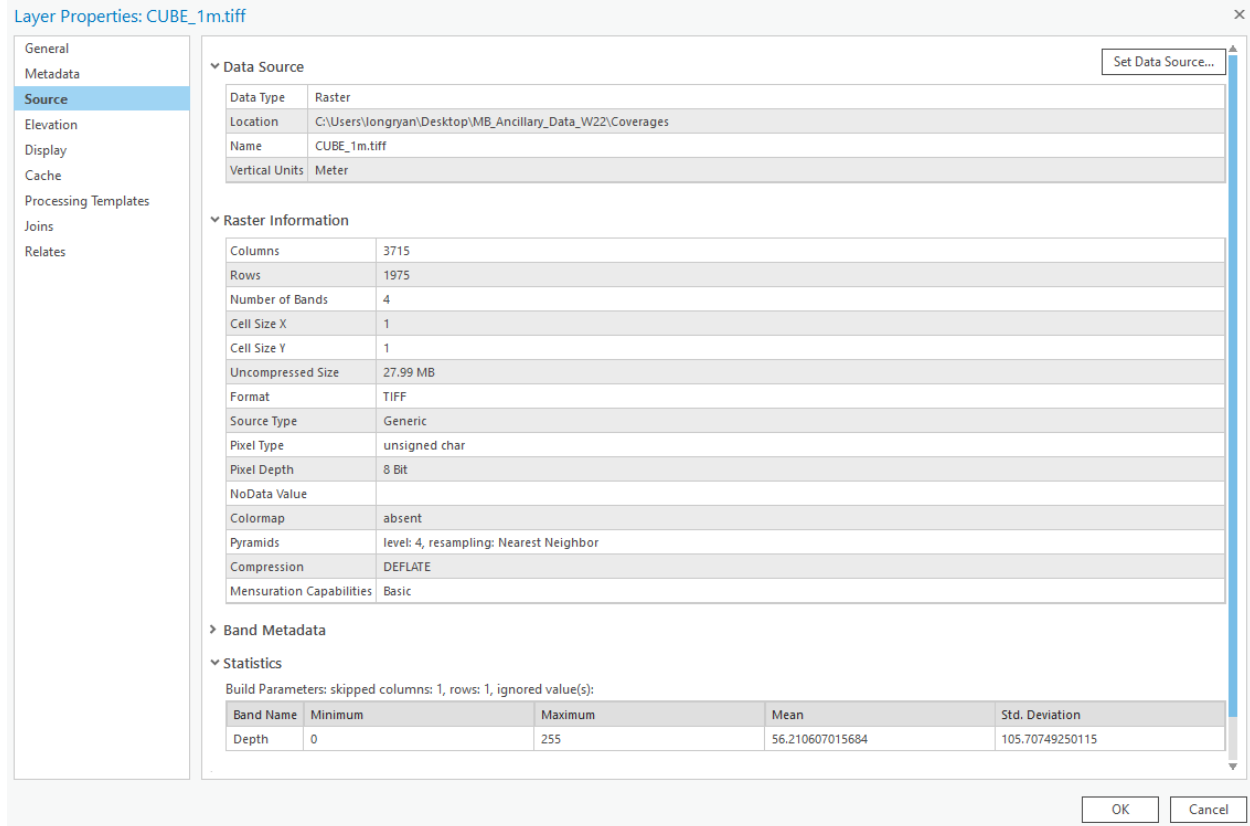


Figure 23: Pixel Values in Layer Properties

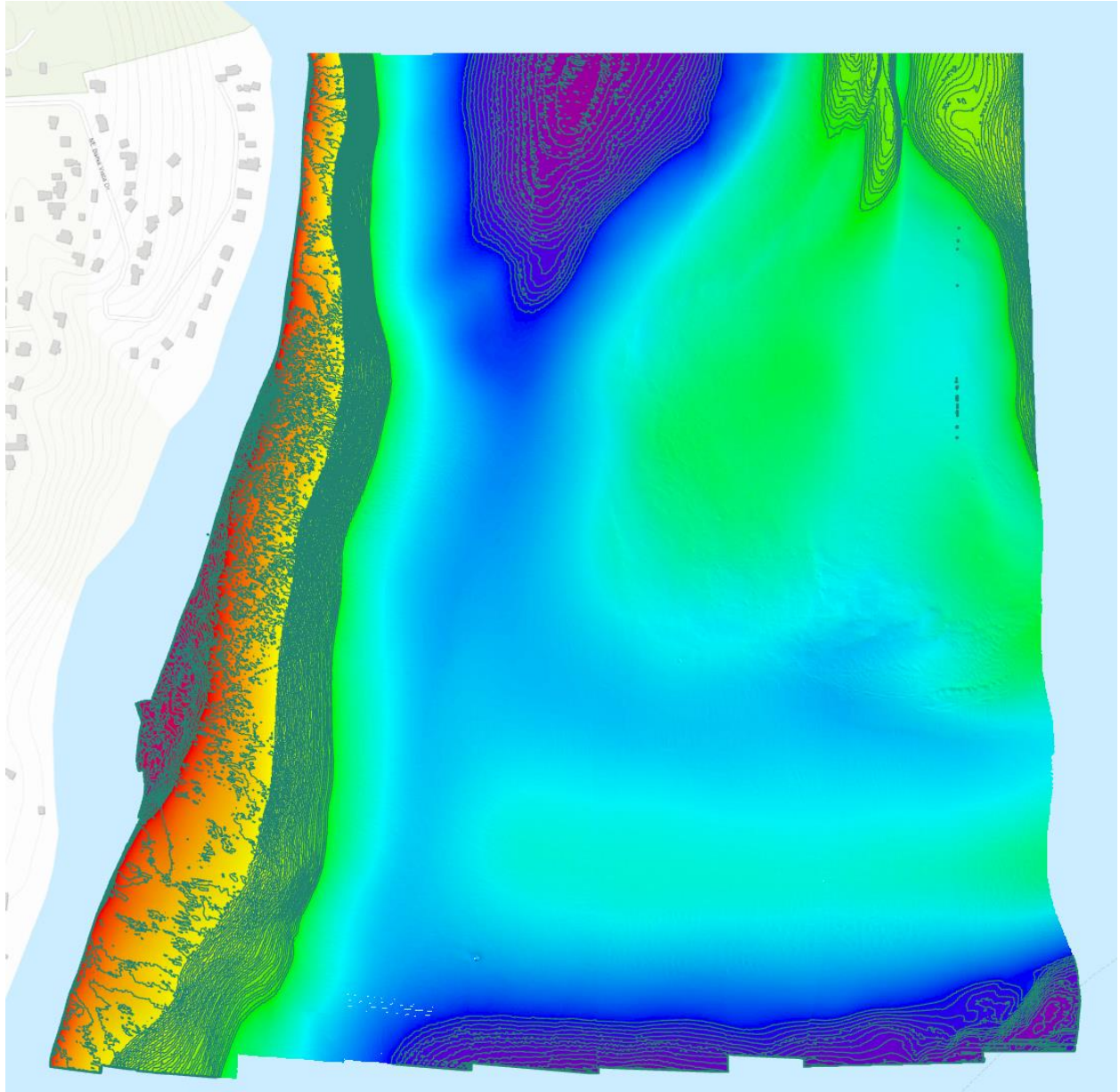


Figure 24: 5m Contour Intervals of Depth Band

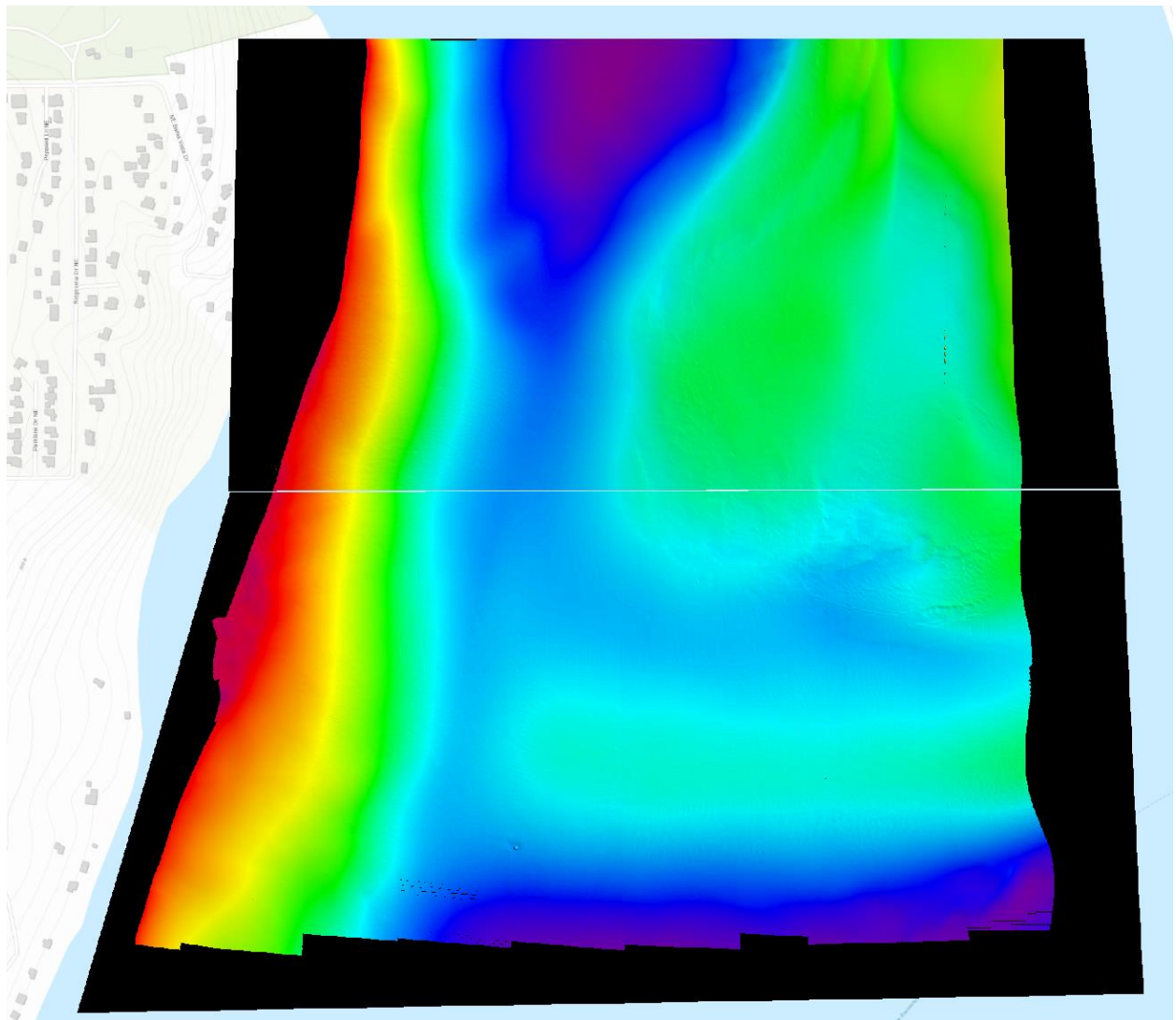


Figure 25: West-East Seafloor Profile at $Y = 5,270,800 \text{ m}$

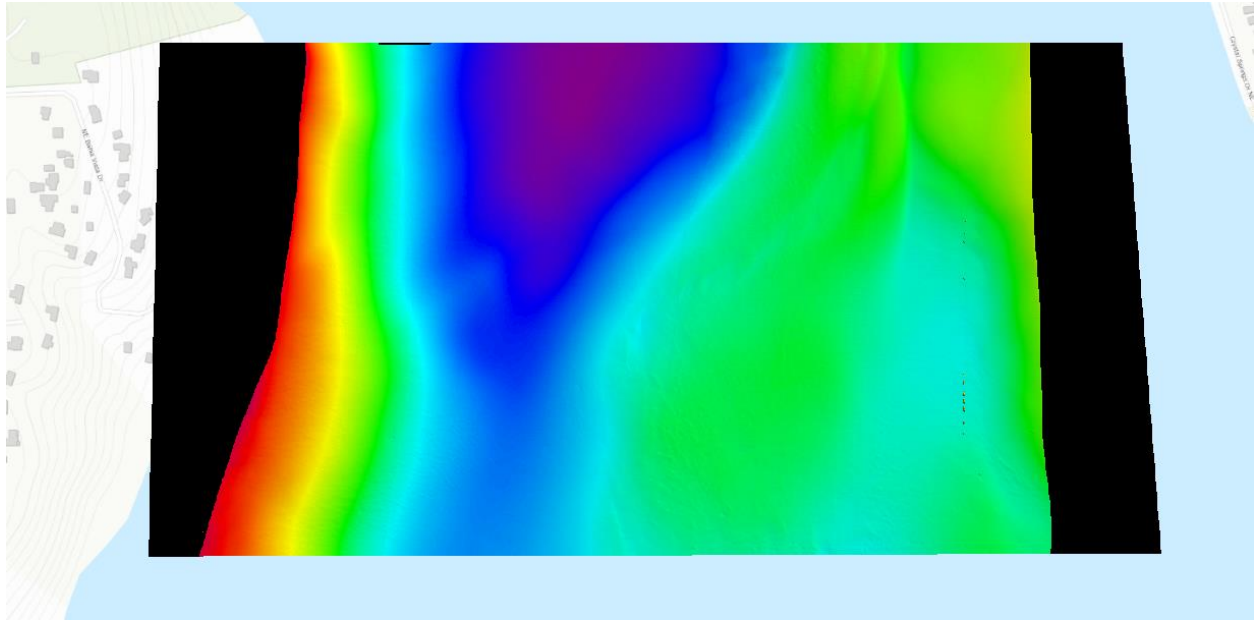


Figure 26: West-East Seafloor Profile above $Y = 5,270,800$ m

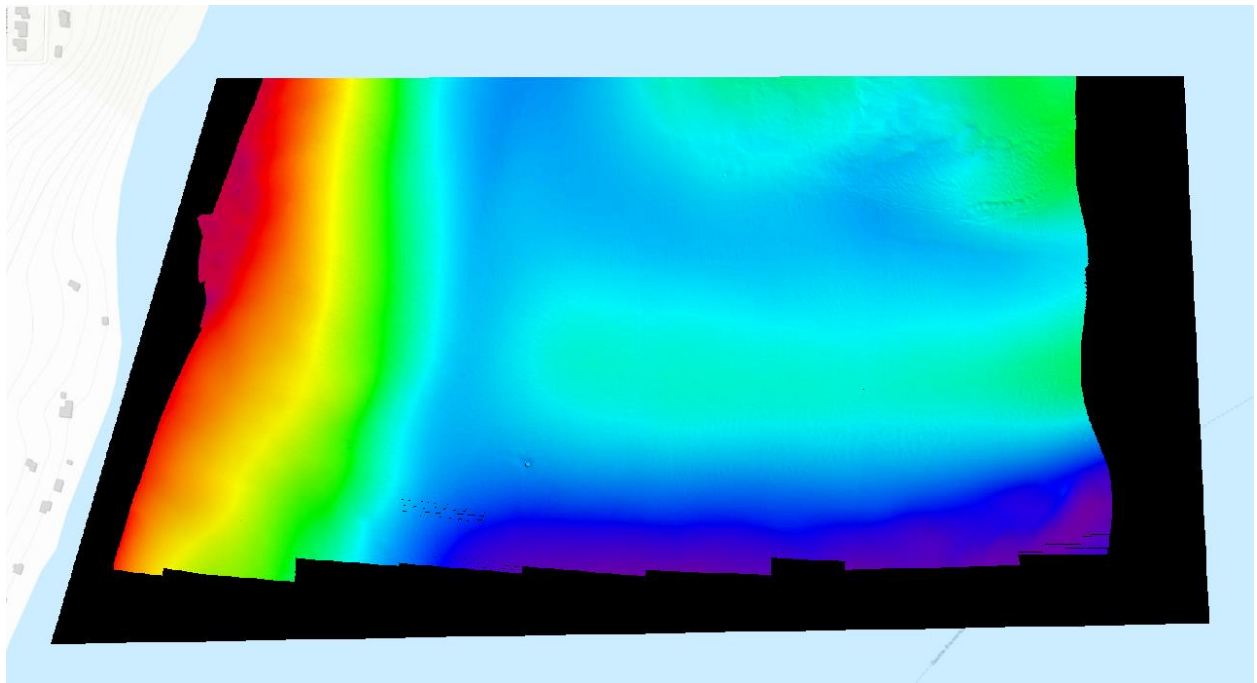


Figure 27: West-East Seafloor Profile below $Y = 5,270,800$ m